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23911 7590 05/14/2009

CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

NGHEM, MICHAEL P

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 05/14/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,078	06/19/2007	Michael-Rainer Busch	095309.58177US	8811

TITLE OF INVENTION: METHOD AND APPARATUS FOR DETECTING THE PRESENCE OF A PRESCRIBED HEAT EXCHANGER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	08/14/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

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B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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23911 7590 05/14/2009

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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10/594,078	06/19/2007	Michael-Rainer Busch	095309,58177US	8811

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	08/14/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGHIEM, MICHAEL P	2863	702-130000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
 Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER NGHIEM, MICHAEL P				
ART UNIT			PAPER NUMBER	
2863				

DATE MAILED: 05/14/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/594,078

Applicant(s)

BUSCH ET AL.

Examiner

MICHAEL P. NGHIEM

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 27 February 2009.
2. ☒ The allowed claim(s) is/are 19,22,31 and 32.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Specification

The substitute specification filed on September 25, 2006 has been entered. The statement that the substitute specification contains no new matter has been filed on September 25, 2006.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given by Mr. James McKeown during a telephone interview on May 6, 2009.

The application has been amended as follows:

In the specification (clean version, filed on 9-25-2006):

Page 11, move the heading "DETAILED DESCRIPTION OF THE DRAWINGS" to after paragraph 0040.

Replace Claim 19 with the following:

-- 19. (Currently Amended) A method for detecting presence or absence of a motor vehicle prescribed heat exchanger during motor vehicle operation, comprising:

(S1) using a sensor to measure temperature of a heat-exchanger medium and at the same time observing further current motor vehicle operationally relevant parameters for a given time window;

(S2) determining an expected time gradient of the temperature of the heat-exchanger medium;

(S3) determining a current time gradient of the temperature of the heat-exchanger medium; and

(S4) using an evaluation device to detect the presence of a prescribed heat exchanger based on the expected and the current time gradients of the temperature of the heat-exchanger medium; -

wherein method step (S1) comprises the following substeps:

(S1-1) measuring values of the temperature of the heat-exchanger medium in predefined time intervals and plotting the time profiles of the temperature these values; and

(S1-2) measuring values of the operationally relevant parameters at predefined time intervals and plotting the time profiles of the operationally relevant parameters these values; and

wherein method step (\$2) comprises the following substeps:

(S2-1) comparing the plotted current operationally relevant parameters with predefined values;

(S2-2) determining an associated current operating state in accordance with this comparison; and

(S2-3) determining the temperature gradient expected in the associated ~~this~~ current operating state. --

Replace Claim 22 with the following:

-- 22. (Currently Amended) A method for detecting presence or absence of a motor vehicle prescribed heat exchanger, comprising the following steps which are performed during motor vehicle operation:

(S1) observing, using a sensor, temperature of a heat-exchanger medium and at the same time observing further current motor vehicle operationally relevant parameters for a given time window;

(S2) determining an expected time gradient of the temperature of the heat-exchanger medium;

(S3) determining a current time gradient of the temperature of the heat-exchanger medium; and

(S4) detecting, using an evaluation device, the presence of a prescribed heat exchanger based on the expected and the current time gradients of the temperature of the heat-exchanger medium,

wherein method step (S4) comprises the following substeps:

(S4-1) comparing the current and expected time gradients of the temperature of the heat-exchanger medium;

(S4-2) taking into account this comparison result with reference to a predefined threshold value;

(S4-3) incrementing at least one counter in accordance with the comparison result from substep (S4-2);

(S4-4) carrying out method steps (S1) to (S4) until a predefined counter reading is reached; and

(S4-5) outputting data signals when the presence of a prescribed heat exchanger is detected present. --

Replace Claim 31 with the following:

-- 31. (Currently Amended) An apparatus for detecting the presence of a motor vehicle prescribed heat exchanger, comprising:

a heat-exchanger medium for a-the motor vehicle motor prescribed heat exchanger;

a measuring system for measuring the temperature of the heat-exchanger medium; and

an evaluation device for evaluating data for detecting the presence of the prescribed heat exchanger having:

a memory device for storing values of time profiles of measured values;

a data memory for storing data including predefined threshold values and operating state data; and

at least one counter,

wherein the apparatus is configured to measure the temperature of the heat-exchanger medium with the measuring system and at the same time observe further current motor vehicle operationally relevant parameters for a given time window in which the measuring system measures values of the temperature of the heat-exchanger medium in predefined time intervals and the time profiles of the temperature ~~these~~ values are ~~is~~ plotted and stored in the memory device and values of the operationally relevant parameters are measured at predefined time intervals and time profiles of the ~~these~~ values of the operationally relevant parameters are plotted; to determine an expected time gradient of the temperature of the heat-exchanger medium, in which the plotted current operationally relevant parameters are compared with the predefined threshold values stored in the data memory, an associated current operating state is determined in accordance with the compared parameter, and the temperature gradient expected in the associated current operating state is determined; to determine a current time gradient of the temperature of the heat-exchanger medium; and to detect the presence of a prescribed heat exchanger based on the expected and the current time gradients of the temperature of the heat-exchanger medium on a repeated basis using the at least one counter of the evaluation device. --

Reasons For Allowance

The **combination** as claimed wherein a method or system for detecting the presence or absence of a prescribed heat exchanger comprising comparing the plotted

current operationally relevant parameters with predefined values; determining an associated current operating state in accordance with this comparison (claims 19, 31) or incrementing at least one counter in accordance with the comparison result; carrying out method steps until a predefined counter reading is reached (claim 22) is not disclosed, suggested, or made obvious by the prior art of record.

Alleving et al. (US 6,681,619), US equivalent of EP 1153646, discloses a system for determining the effectiveness of a catalytic coating on a radiator in a motor vehicle (Abstract, lines 1-2). A sensor determines the effectiveness of the catalytic exchanger by comparing a parameter on one side of the heat exchanger with a parameter on the other side of the heat exchanger (Abstract, lines 9-12). However, Alleving et al. does not disclose detecting the presence or absence of a prescribed heat exchanger by comparing the plotted current operationally relevant parameters with predefined values or comparing the current and expected time gradients of the temperature of the heat-exchanger medium.

Hugel et al. (DE 44 26 494) discloses a vehicle IC engine cooling system monitoring comprising measured characteristics with programmed values (Abstract). However, Hugel et al. does not disclose detecting the presence or absence of a prescribed heat exchanger.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P Nghiem whose telephone number is (571) 272-2277. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael P. Nghiem/

Primary Examiner, GAU 2863

May 6, 2009